

PERSISTENT MEMORY DEVICE FOR BACKUP PROCESS CHECKPOINT STATES

Roger Hansen
Pankaj Mehra
Sam Fineberg

ABSTRACT

A system is described that includes a network interface attached to a persistent memory unit. The persistent memory unit is configured to receive checkpoint data from a primary process, and to provide access to the checkpoint data for use in a backup process, which provides recovery capability in the event of a failure of the primary process. The network interface is configured to provide address translation information between virtual and physical addresses in the persistent memory unit. In other embodiments, the persistent memory unit is capable of storing multiple updates to the checkpoint state. The checkpoint state and the updates to the checkpoint state, if any, can be retrieved by the backup process periodically, or all at once upon failure of the primary process.